

## **AIR QUALITY PROGRAM**

301 Thirty-Ninth Street, Bldg. #7  
Pittsburgh, PA 15201-1891

### **Minor Source/Minor Modification INSTALLATION PERMIT**

**Issued To:**

U. S. Steel Clairton Works  
400 State Street  
Clairton, PA 15025-1855

**ACHD Permit#:**

**0052-I014a**

**Date of Issuance:**

March 10, 2011

**Date Amended:**

May 24, 2011

**Expiration Date:**

(See Section III.12)

**Issued By:**

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Sandra L. Etzel  
Air Pollution Control Mgr.

**Prepared By:**

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Hafeez A. Ajenifuja  
Air Quality Engineer

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### AMENDMENTS:

DATE	SECTION
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05/24/2011	<p>Section II: Amendment Description was added; table was corrected to reflect the revised capacity; Conditions V.A.1.f through V.A.1.h were added; Condition V.A.1.g concerning filterable PM limit of 0.02/ton coke was removed; Conditions V.A.2.e.1) through 5) were added; Condition V.A.5.e. was added; V.B: revised capacity/throughput; Conditions V.B.1.f through V.B.1.h were added; Condition V.B.1.i: emissions was revised to accommodate the change in capacity/throughput; Condition V.B.1.g concerning filterable PM limit of 0.02/ton coke was removed; Conditions V.B.2.e.1) through 5) were added; Condition V.B.5.e. was added; Section VII; emission summary table was revised.</p>
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**I. CONTACT INFORMATION**

All inquiries concerning this permit should be directed to:

**Facility Location:** **U. S. Steel Clairton Works**  
400 State Street  
Clairton, PA 15025-1855

**Permittee/Owner:** **U. S. Steel Clairton Works**  
400 State Street  
Clairton, PA 15025-1855

**Responsible Official:** **Lisa Roudabush**  
Title: General Manager  
Company: Mon Valley Works  
Address: P.O. Box 878  
Dravosburg, PA 15034  
Telephone Number: (412) 675-2600  
Fax Number: (412) 675-5407

Facility Contact: Coleen M. Davis  
Title: Sr. Environmental Control Engineer  
Telephone Number: (412) 233-1015  
Fax Number: (412) 233-1011  
E-mail Address: [cdavis@uss.com](mailto:cdavis@uss.com)

**AGENCY ADDRESSES:**

**ACHD Contact:** **Chief Engineer**  
Allegheny County Health Department  
Air Quality Program  
301 39th Street, Building #7  
Pittsburgh, PA 15201-1891

**EPA Contact:** **Enforcement Programs Section (3AP12)**  
USEPA Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029

## II. FACILITY AND INSTALLATION DESCRIPTION

*[This section describes the equipment being installed. It is provided for informational purposes only and is not intended to be an applicable requirement.]*

### FACILITY DESCRIPTION

U.S. Steel Clairton Works is the largest by-products coke plant in North America. Clairton Works operates 9 coke batteries and produces approximately 10,000 tons of coke per day from the destructive distillation (carbonization) of more than 16,000 tons of coal. During the carbonization process, approximately 215 million cubic feet of coke oven gas are produced. The volatile products of coal contained in the coke oven gas are recovered in the by-products plant. In addition to the coke oven gas, daily production of these by-products include 145,000 gallons of crude coal tar, 55,000 gallons of light oil, 35 tons of elemental sulfur, and 50 tons of anhydrous ammonia. The coke produced is used in the blast furnace operations in the production of molten iron for steel making.

### INSTALLATION/AMENDMENT DESCRIPTION

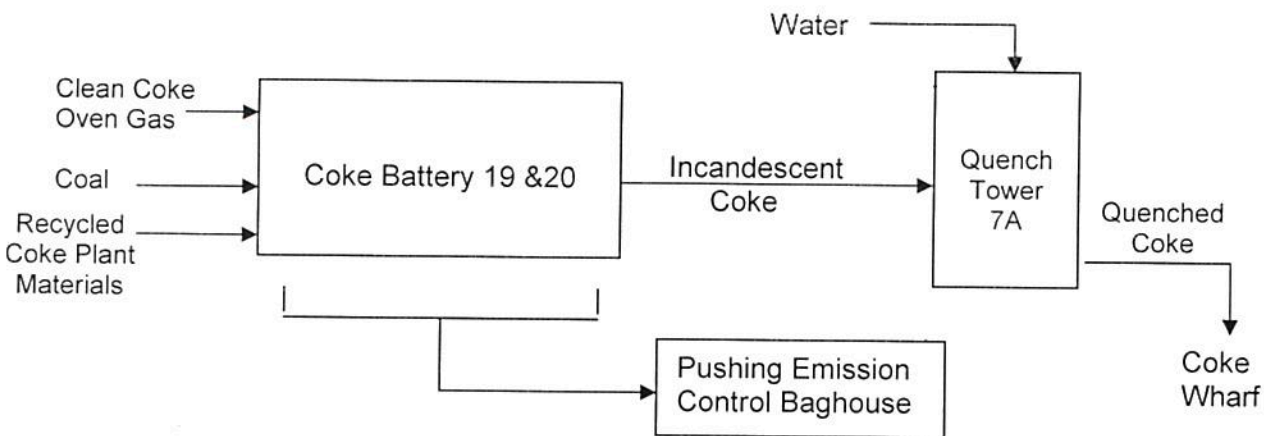
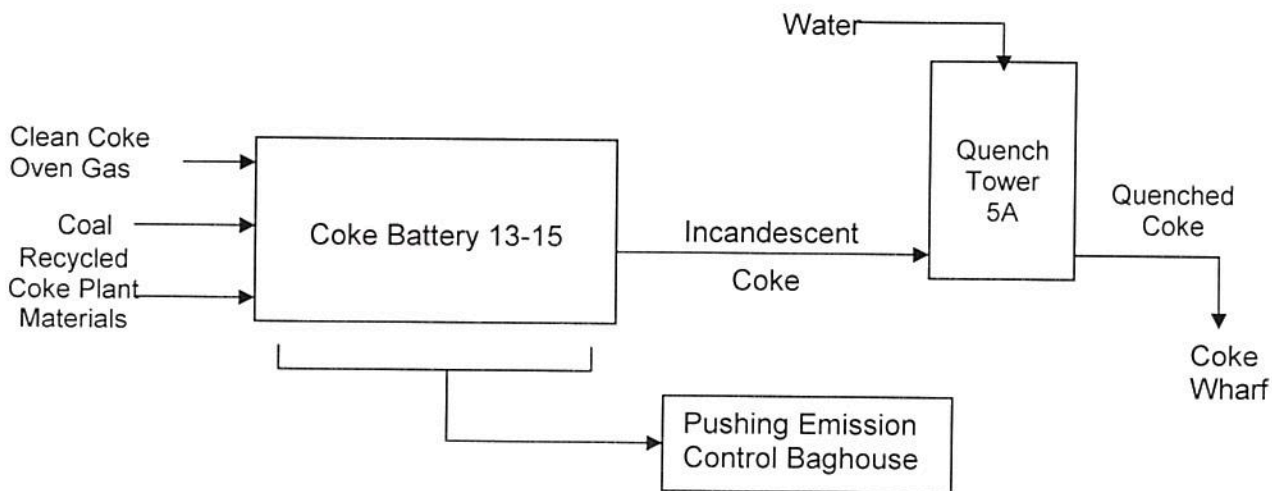
This amendment revises the originally issued permit 0052-I014. The permit was issued on March 10, 2011.

- Conditions V.A.1.g and V.B.1.g which is the filterable particulate emission limit 0.02 lbs/tons was removed from the permit because the quench tower manufacturer will not guarantee it.
- Batteries 19-20 maximum capacities and quench tower 7A was changed to 2,004,580 tons of coal per year and 1,555,630 tons of coke per year, consistent with the Title V Operating Permit.

#### Installation Emission Unit Summary:

I.D.	SOURCE DESCRIPTION	CONTROL DEVICE(S)	MAXIMUM CAPACITY	FUEL/RAW MATERIAL	STACK I.D.
P051	5A Quench Tower	Baffle	1,270,200 tons of coke per year	Water and Incandescent Coke	S051
P052	7A Quench Tower	Baffle	1,555,630 tons of coke per year	Water and Incandescent Coke	S052

**COKE BATTERIES 13-15 & 19-20 PROCESS FLOW DIAGRAMS**



### ***DECLARATION OF POLICY***

*Pollution prevention is recognized as the preferred strategy (over pollution control) for reducing risk to air resources. Accordingly, pollution prevention measures should be integrated into air pollution control programs wherever possible, and the adoption by sources of cost-effective compliance strategies, incorporating pollution prevention, is encouraged. The Department will give expedited consideration to any permit modification request based on pollution prevention principles.*

The permittee is subject to the terms and conditions set forth below. These terms and conditions constitute provisions of *Allegheny County Health Department Rules and Regulations, Article XXI Air Pollution Control*. The subject equipment has been conditionally approved for installation. The equipment shall be installed and operated in conformity with the plans, specifications, conditions, and instructions that are part of your application, and may be periodically inspected for compliance by the Department. In the event that the terms and conditions of this permit or the applicable provisions of Article XXI conflict with the application for this permit, these terms and conditions and the applicable provisions of Article XXI shall prevail. Additionally, nothing in this permit relieves the permittee from the obligation to comply with all applicable federal, State and local laws and regulations.

## **III. GENERAL CONDITIONS -- MINOR MODIFICATION**

### **1. Prohibition of Air Pollution (§2101.11)**

It shall be a violation of this permit to fail to comply with, or to cause or assist in the violation of, any requirement of this permit or Article XXI, or any order or permit issued pursuant to authority granted by Article XXI. The permittee shall not willfully, negligently, or through the failure to provide and operate necessary control equipment or to take necessary precautions, operate any source of air contaminants in such manner that emissions from such source:

- a. Exceed the amounts permitted by this permit or by any order or permit issued pursuant to Article XXI;
- b. Cause an exceedance of the ambient air quality standards established by §2101.10 of Article XXI; or
- c. May reasonably be anticipated to endanger the public health, safety, or welfare.

### **2. Nuisances (§2101.13)**

Any violation of any requirement of this Permit shall constitute a nuisance.

### **3. Definitions (§2101.20)**

- a. Except as specifically provided in this permit, terms used retain the meaning accorded them under the applicable provisions and requirements of Article XXI or the regulation being cited. Whenever used in this permit, or in any action taken pursuant to this permit, the words and phrases shall have the meanings stated, unless the context clearly indicates otherwise.
- b. Unless specified otherwise in this permit or an applicable regulation, a “year” shall be defined as any 12 consecutive months.
- c. The definitions in §40 CFR 63, Subpart L at §63.301 and Subpart CCCCC at §63.7352 are incorporated by reference.

**4. Certification (§2102.01)**

Any report or compliance certification submitted under this permit shall contain written certification by a responsible official as to truth, accuracy, and completeness. This certification and any other certification required under this permit shall be signed by a responsible official of the source, and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

**5. Operation and Maintenance (§2105.03)**

All air pollution control equipment required by this permit or Article XXI, and all equivalent compliance techniques that have been approved by the Department, shall be properly installed, maintained, and operated consistent with good air pollution control practice.

**6. Conditions (§2102.03.c)**

It shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02 for any person to fail to comply with any terms or conditions set forth in this permit.

**7. Transfers (§2102.03.e)**

This permit shall not be transferable from one person to another, except in accordance with Article XXI §2102.03.e and in cases of change-in-ownership which are documented to the satisfaction of the Department, and shall be valid only for the specific sources and equipment for which this permit was issued. The transfer of permits in the case of change-in-ownership may be made consistent with the administrative permit amendment procedure of Article XXI §2103.14.b.

**8. Effect (§2102.03.g)**

Issuance of this permit shall not in any manner relieve any person of the duty to fully comply with the requirements of Article XXI or any other provision of law, nor shall it in any manner preclude or affect the right of the Department to initiate any enforcement action whatsoever for violations of Article XXI or this Permit, whether occurring before or after the issuance of such permit. Further, the issuance of this permit shall not be a defense to any nuisance action, nor shall such permit be construed as a certificate of compliance with the requirements of Article XXI or this Permit.

**9. General Requirements (§2102.04.a)**

It shall be a violation of this Permit giving rise to the remedies set forth in Article XXI §2109 for any person to install, modify, replace, reconstruct, or reactivate any source or air pollution control equipment to which this Permit applies unless either:

- a. The Department has first issued an Installation Permit for such source or equipment; or
- b. Such action is solely a reactivation of a source with a current Operating Permit, which is approved under §2103.13 of Article XXI.

**10. Conditions (§2102.04.e)**

Further, the initiation of installation, modification, replacement, reconstruction, or reactivation under this Installation Permit and any reactivation plan shall be deemed acceptance by the source of all terms and conditions specified by the Department in this permit and plan.

**11. Revocation (§2102.04.f)**

- a. The Department may, at any time, revoke this Installation Permit if it finds that:
  - 1) Any statement made in the permit application is not true, or that material information has not been disclosed in the application;
  - 2) The source is not being installed, modified, replaced, reconstructed, or reactivated in the manner indicated by this permit or applicable reactivation plan;
  - 3) Air contaminants will not be controlled to the degree indicated by this permit;
  - 4) Any term or condition of this permit has not been complied with;
  - 5) The Department has been denied lawful access to the premises or records, charts, instruments and the like as authorized by this Permit; or
- b. Prior to the date on which construction of the proposed source has commenced the Department may, revoke this Installation Permit if a significantly better air pollution control technology has become available for such source, a more stringent regulation applicable to such source has been adopted, or any other change has occurred which requires a more stringent degree of control of air contaminants.

**12. Term (§2102.04.g)**

This Installation Permit shall expire in 18 months if construction has not commenced within such period or shall expire one (1) year after such construction has been suspended, if construction is not resumed within such period. In any event, this Installation Permit shall expire upon completion of construction, except that this Installation Permit shall authorize temporary operation to facilitate shakedown of sources and air cleaning devices, to permit operations pending issuance of a related subsequent Operating Permit, or to permit the evaluation of the air contamination aspects of the source. Such temporary operation period shall be valid for a limited time, not to exceed 180 days, but may be extended for additional limited periods, each not to exceed 120 days, except that no temporary operation shall be authorized or extended which may circumvent the requirements of this Permit.

**13. Annual Installation Permit Administrative Fee (§2102.10.c & e)**

No later than 30 days after the date of issuance of this Installation Permit and on or before the last day of the month in which this permit was issued in each year thereafter, during the term of this permit until a subsequent corresponding Operating Permit or amended Operating Permit is properly applied for, the owner or operator of such source shall pay to the Department, in addition to all other applicable emission and administration fees, an Annual Installation Permit Administration Fee in an amount of \$750.

**14. Severability Requirement (§2103.12.l)**

The provisions of this permit are severable, and if any provision of this permit is determined to by a court of competent jurisdiction to be invalid or unenforceable, such a determination will not affect the remaining provisions of this permit.

**15. Reporting Requirements (§2103.12.k)**

- a. The permittee shall submit reports of any required monitoring at least every six (6) months. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by the Responsible Official.
- b. Prompt reporting of deviations from permit requirements is required, including those attributable to upset conditions as defined in this permit and Article XXI §2108.01.c, the probable cause of such deviations, and any corrective actions or preventive measures taken.
- c. All reports submitted to the Department shall comply with the certification requirements of General Condition III.4 above.
- d. Semiannual reports required by this permit shall be submitted to the Department as follows:
  - 1) One semiannual report is due by July 31 of each year for the time period beginning January 1 and ending June 30.
  - 2) One semiannual report is due by January 31 of each year for the time period beginning July 1 and ending December 31.
  - 3) The first semiannual report shall be due January 31, 2012 for the time period beginning on the issuance date of this permit through December 31, 2011.
- e. Quarterly reports required by this permit shall be submitted to the Department as follows:
  - 1) The quarterly report for January through March shall be due on or before April 30 of each year.
  - 2) The quarterly report for April through June shall be due on or before July 31 of each year.
  - 3) The quarterly report for July through September shall be due on or before October 31 of each year.
  - 4) The quarterly report for October through December shall be due on or before January 31 of the following year.
  - 5) The first quarterly report shall be due January 31, 2012 for the time period beginning on the issuance date of this permit through December 31, 2011.

**16. Minor Installation Permit Modifications (§2102.10.d)**

Modifications to this Installation Permit may be applied for but only upon submission of an application with a fee in the amount of \$300 and where:

- a. No reassessment of any control technology determination is required; and
- b. No reassessment of any ambient air quality impact is required.

**17. Violations (§2104.06)**

The violation of any emission standard established by this Permit shall be a violation of this Permit giving rise to the remedies provided by Article §2109.02.

**18. Other Requirements Not Affected (§2105.02)**

Compliance with the requirements of this permit shall not in any manner relieve any person from the duty to fully comply with any other applicable federal, state, or county statute, rule, regulation, or the like, including, but not limited to, any applicable NSPSs, NESHAPs, MACTs, or Generally Achievable Control Technology standards now or hereafter established by the EPA, and any applicable requirement of BACT or LAER as provided by Article XXI, any condition contained in this Installation Permit and/or any additional or more stringent requirements contained in an order issued to such person pursuant to Part I of Article XXI.

**19. Other Rights and Remedies Preserved (§2109.02.b)**

Nothing in this permit shall be construed as impairing any right or remedy now existing or hereafter created in equity, common law or statutory law with respect to air pollution, nor shall any court be deprived of such jurisdiction for the reason that such air pollution constitutes a violation of this permit

**20. Penalties, Fines, and Interest (§2109.07.a)**

A source that fails to pay any fee required under this Permit or Article XXI when due shall pay a civil penalty of 50% of the fee amount, plus interest on the fee amount computed in accordance with of Article XXI §2109.06.a.4 from the date the fee was required to be paid. In addition, the source may have its permit revoked.

**21. Appeals (§2109.10)**

In accordance with State Law and County regulations and ordinances, any person aggrieved by an order or other final action of the Department issued pursuant to Article XXI shall have the right to appeal the action to the Director in accordance with the applicable County regulations and ordinances.

#### IV. SITE LEVEL TERMS AND CONDITIONS

##### 1. Reporting of Upset Conditions (§2103.12.k.2)

The permittee shall promptly report all deviations from permit requirements, including those attributable to upset conditions as defined in Article XXI §2108.01.c, the probable cause of such deviations, and any corrective actions or preventive measures taken.

##### 2. Visible Emissions (§2104.01.a)

a. Except as provided for by Article XXI §2108.01.d pertaining to a cold start, no person shall operate, or allow to be operated, any source in such manner that the opacity of visible emissions from a flue or process fugitive emissions from such source, excluding uncombined water:

- 1) Equal or exceed an opacity of 20% for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or,
- 2) Equal or exceed an opacity of 60% at any time.

b. Condition IV.2.a above does not apply to coke ovens or coke oven batteries.

##### 3. Odor Emissions (§2104.04) (County-only enforceable)

No person shall operate, or allow to be operated, any source in such manner that emissions of malodorous matter from such source are perceptible beyond the property line. The permittee shall take all reasonable action as may be necessary to prevent malodorous matter from becoming perceptible beyond facility boundaries. Further, the permittee shall perform such observations as may be deemed necessary along facility boundaries to ensure that malodorous matter beyond the facility boundary in accordance with Article XXI §2107.13 is not perceptible and record all findings and corrective action measures taken.

##### 4. Materials Handling (§2104.05)

The permittee shall not conduct, or allow to be conducted, any materials handling operation in such manner that emissions from such operation are visible at or beyond the property line.

##### 5. Operation and Maintenance (§2105.03)

All air pollution control equipment required by this permit or any order under Article XXI, and all equivalent compliance techniques approved by the Department, shall be properly installed, maintained, and operated consistently with good air pollution control practice.

##### 6. Open Burning (§2105.50)

No person shall conduct, or allow to be conducted, the open burning of any material, except where the Department has issued an Open Burning Permit to such person in accordance with Article XXI §2105.50 or where the open burning is conducted solely for the purpose of non-commercial preparation of food for human consumption, recreation, light, ornament, or provision of warmth for outside workers, and in a manner which contributes a negligible amount of air contaminants.

**7. Shutdown of Control Equipment (§2108.01.b)**

- a. In the event any air pollution control equipment is shut down for reasons other than a breakdown, the person responsible for such equipment shall report, in writing, to the Department the intent to shut down such equipment at least 24 hours prior to the planned shutdown. Notwithstanding the submission of such report, the equipment shall not be shut down until the approval of the Department is obtained; provided, however, that no such report shall be required if the source(s) served by such air pollution control equipment is also shut down at all times that such equipment is shut down.
- b. The Department shall act on all requested shutdowns as promptly as possible. If the Department does not take action on such requests within ten (10) calendar days of receipt of the notice, the request shall be deemed denied, and upon request, the owner or operator of the affected source shall have a right to appeal in accordance with the provisions of Article XI.
- c. The prior report required by Site Level Condition IV.7.a above shall include:
  - 1) Identification of the specific equipment to be shut down, its location and permit number (if permitted), together with an identification of the source(s) affected;
  - 2) The reasons for the shutdown;
  - 3) The expected length of time that the equipment will be out of service;
  - 4) Identification of the nature and quantity of emissions likely to occur during the shutdown;
  - 5) Measures, including extra labor and equipment, which will be taken to minimize the length of the shutdown, the amount of air contaminants emitted, or the ambient effects of the emissions;
  - 6) Measures which will be taken to shut down or curtail the affected source(s) or the reasons why it is impossible or impracticable to shut down or curtail the affected source(s) during the shutdown; and
  - 7) Such other information as may be required by the Department.

**8. Breakdowns (§2108.01.c)**

- a. In the event that any air pollution control equipment, process equipment, or other source of air contaminants breaks down in such manner as to have a substantial likelihood of causing the emission of air contaminants in violation of this permit, or of causing the emission into the open air of potentially toxic or hazardous materials, the person responsible for such equipment or source shall immediately, but in no event later than sixty (60) minutes after the commencement of the breakdown, notify the Department of such breakdown and shall, as expeditiously as possible but in no event later than seven (7) days after the original notification, provide written notice to the Department.
- b. To the maximum extent possible, all oral and written notices required shall include all pertinent facts, including:
  - 1) Identification of the specific equipment which has broken down, its location and permit number (if permitted), together with an identification of all related devices, equipment, and other sources which will be affected.
  - 2) The nature and probable cause of the breakdown.
  - 3) The expected length of time that the equipment will be inoperable or that the emissions will continue.

- 4) Identification of the specific material(s) which are being, or are likely to be emitted, together with a statement concerning its toxic qualities, including its qualities as an irritant, and its potential for causing illness, disability, or mortality.
  - 5) The estimated quantity of each material being or likely to be emitted.
  - 6) Measures, including extra labor and equipment, taken or to be taken to minimize the length of the breakdown, the amount of air contaminants emitted, or the ambient effects of the emissions, together with an implementation schedule.
  - 7) Measures being taken to shut down or curtail the affected source(s) or the reasons why it is impossible or impractical to shut down the source(s), or any part thereof, during the breakdown.
- c. Notices required shall be updated, in writing, as needed to advise the Department of changes in the information contained therein. In addition, any changes concerning potentially toxic or hazardous emissions shall be reported immediately. All additional information requested by the Department shall be submitted as expeditiously as practicable.
  - d. Unless otherwise directed by the Department, the Department shall be notified whenever the condition causing the breakdown is corrected or the equipment or other source is placed back in operation by no later than 9:00 AM on the next County business day. Within seven (7) days thereafter, written notice shall be submitted pursuant to Paragraphs a and b above.
  - e. Breakdown reporting shall not apply to breakdowns of air pollution control equipment which occur during the initial startup of said equipment, provided that emissions resulting from the breakdown are of the same nature and quantity as the emissions occurring prior to startup of the air pollution control equipment.
  - f. In no case shall the reporting of a breakdown prevent prosecution for any violation of this permit or Article XXI.

**9. Cold Start (§2108.01.d)**

In the event of a cold start on any fuel-burning or combustion equipment, except stationary internal combustion engines and combustion turbines used by utilities to meet peak load demands, the person responsible for such equipment shall report in writing to the Department the intent to perform such cold start at least 24 hours prior to the planned cold start. Such report shall identify the equipment and fuel(s) involved and shall include the expected time and duration of the startup. Upon written application from the person responsible for fuel-burning or combustion equipment which is routinely used to meet peak load demands and which is shown by experience not to be excessively emissive during a cold start, the Department may waive these requirements and may instead require periodic reports listing all cold starts which occurred during the report period. The Department shall make such waiver in writing, specifying such terms and conditions as are appropriate to achieve the purposes of Article XXI. Such waiver may be terminated by the Department at any time by written notice to the applicant.

**10. Emissions Inventory Statements (§2108.01.e)**

- a. Emissions inventory statements in accordance with §2108.01.e shall be submitted to the Department by March 15 of each year for the preceding calendar year. The Department may require more frequent submittals if the Department determines that more frequent submissions are required by the EPA or that analysis of the data on a more frequent basis is necessary to implement the requirements of Article XXI or the Clean Air Act.
- b. The failure to submit any report or update within the time specified, the knowing submission of false information, or the willful failure to submit a complete report shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

**11. Orders (§2108.01.f)**

In addition to meeting the requirements Site Level Conditions IV.7 through IV.10, inclusive, the person responsible for any source shall, upon order by the Department, report to the Department such information as the Department may require in order to assess the actual and potential contribution of the source to air quality. The order shall specify a reasonable time in which to make such a report.

**12. Violations (§2108.01.g)**

The failure to submit any report or update thereof required by Site Level Conditions IV.7 through IV.11 above, inclusive, within the time specified, the knowing submission of false information, or the willful failure to submit a complete report shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

**13. Emissions Testing (§2108.02)**

- a. Orders: No later than 60 days after achieving full production or 120 days after startup, whichever is earlier, the permittee shall conduct, or cause to be conducted, such emissions tests as are specified by the Department to demonstrate compliance with the applicable requirements of this permit and shall submit the results of such tests to the Department in writing. Upon written application setting forth all information necessary to evaluate the application, the Department may, for good cause shown, extend the time for conducting such tests beyond 120 after startup but shall not extend the time beyond 60 days after achieving full production. Emissions testing shall comply with all applicable requirements of Article XXI, §2108.02.e.
- b. Tests by the Department: Notwithstanding any tests conducted pursuant to this permit, the Department or another entity designated by the Department may conduct emissions testing on any source or air pollution control equipment. At the request of the Department, the permittee shall provide adequate sampling ports, safe sampling platforms and adequate utilities for the performance of such tests.
- c. Testing Requirements. No later than 45 days prior to conducting any tests required by this permit, the person responsible for the affected source shall submit for the Department's approval a written test protocol explaining the intended testing plan, including any deviations from standard testing procedures, the proposed operating conditions of the source during the test, calibration data for specific test equipment and a demonstration that the tests will be conducted under the direct supervision of persons qualified by training and experience satisfactory to the Department.

to conduct such tests. In addition, at least 30 days prior to conducting such tests, the person responsible shall notify the Department in writing of the time(s) and date(s) on which the tests will be conducted and shall allow Department personnel to observe such tests, record data, provide pre-weighed filters, analyze samples in a County laboratory and to take samples for independent analysis. Test results shall be comprehensively and accurately reported in the units of measurement specified by the applicable emission limitations of this permit.

- d. Test methods and procedures shall conform to the applicable reference method set forth in this permit or Article XXI Part G, or where those methods are not applicable, to an alternative sampling and testing procedure approved by the Department consistent with Article XXI §2108.02.e.2.
- e. Violations: The failure to perform tests as required by this permit or an order of the Department, the failure to submit test results within the time specified, the knowing submission of false information, the willful failure to submit complete results, or the refusal to allow the Department, upon presentation of a search warrant, to conduct tests, shall be a violation of this permit giving rise to the remedies provided by Article XXI §2109.02.

**14. Abrasive Blasting (§2105.51)**

- a. Except where such blasting is a part of a process requiring an operating permit, no person shall conduct or allow to be conducted, abrasive blasting or power tool cleaning of any surface, structure, or part thereof, which has a total area greater than 1,000 square feet unless such abrasive blasting complies with all applicable requirements of Article XXI §2105.51.
- b. In addition to complying with all applicable provisions of §2105.51, no person shall conduct, or allow to be conducted, abrasive blasting of any surface unless such abrasive blasting also complies with all other applicable requirements of Article XXI unless such requirements are specifically addressed by §2105.51.

**15. Asbestos Abatement (§2105.62, §2105.63)**

In the event of removal, encasement, or encapsulation of Asbestos-Containing Material (ACM) at a facility or in the event of the demolition of any facility, the permittee shall comply with all applicable provisions of Article XXI §2105.62 and §2105.63.

**16. Volatile Organic Compound Storage Tanks (§2105.12.a)**

No person shall place or store, or allow to be placed or stored, a volatile organic compound having a vapor pressure of 1.5 psia or greater under actual storage conditions in any aboveground stationary storage tank having a capacity equal to or greater than 2,000 gallons but less than or equal to 40,000 gallons, unless there is in operation on such tank pressure relief valves which are set to release at the higher of 0.7 psig of pressure or 0.3 psig of vacuum or at the highest possible pressure and vacuum in accordance with State or local fire codes, National Fire Prevention Association guidelines, or other national consensus standard approved in writing by the Department. Petroleum liquid storage vessels that are used to store produced crude oil and condensate prior to lease custody transfer are exempt from these requirements.

**17. Permit Source Premises (§2105.40)**

- a. General. No person shall operate, or allow to be operated, any source for which a permit is required by Article XXI Part C in such manner that emissions from any open land, roadway, haul road, yard, or other premises located upon the source or from any material being transported within such source or from any source-owned access road, haul road, or parking lot over five (5) parking spaces:
  - 1) Are visible at or beyond the property line of such source;
  - 2) Have an opacity of 20% or more for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or
  - 3) Have an opacity of 60% or more at any time.
- b. Deposition on Other Premises. Visible emissions from any solid or liquid material that has been deposited by any means from a source onto any other premises shall be considered emissions from such source within the meaning of Site Level Condition IV.17.a above.

**18. Parking Lots and Roadways (§2105.42)**

- a. The permittee shall not maintain for use, or allow to be used, any parking lot over 50 parking spaces or used by more than 50 vehicles in any day or any other roadway carrying more than 100 vehicles in any day or 15 vehicles in any hour in such manner that emissions from such parking lot or roadway:
  - 1) Are visible at or beyond the property line;
  - 2) Have an opacity of 20% or more for a period or periods aggregating more than three (3) minutes in any 60 minute period; or
  - 3) Have an opacity of 60% or more at any time.
- b. Visible emissions from any solid or liquid material that has been deposited by any means from a parking lot or roadway onto any other premises shall be considered emissions from such parking lot or roadway.
- c. Site Level Condition IV.18.a above shall apply during any repairs or maintenance done to such parking lot or roadway.
- d. Notwithstanding any other provision of this permit, the prohibitions of Site Level Condition IV.18 may be enforced by any municipal or local government unit having jurisdiction over the place where such parking lots or roadways are located. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violations of Site Level Condition IV.18.

**19. Permit Source Transport (§2105.43)**

- a. No person shall transport, or allow to be transported, any solid or liquid material outside the boundary line of any source for which a permit is required by Article XXI Part C in such manner that there is any visible emission, leak, spill, or other escape of such material during transport.
- b. Notwithstanding any other provision of this permit, the prohibitions of Site Level Condition IV.19 may be enforced by any municipal or local government unit having jurisdiction over the place where such visible emission, leak, spill, or other escape of material during transport occurs. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violation of Site Level Condition IV.19.

**20. Construction and Land Clearing (§2105.45)**

- a. No person shall conduct, or allow to be conducted, any construction or land clearing activities in such manner that the opacity of emissions from such activities:
  - 1) Equal or exceed 20% for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period; or
  - 2) Equal or exceed 60% at any time.
- b. Notwithstanding any other provision of this permit, the prohibitions of Site Level Condition IV.20 may be enforced by any municipal or local government unit having jurisdiction over the place where such construction or land clearing activities occur. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violations of Site Level Condition IV.20.

**21. Demolition (§2105.47)**

- a. No person shall conduct, or allow to be conducted, any demolition activities in such manner that the opacity of the emissions from such activities equal or exceed 20% for a period or periods aggregating more than three (3) minutes in any 60 minute period.
- b. Notwithstanding any other provisions of this permit, the prohibitions of Site Level Condition IV.21 may be enforced by any municipal or local government unit having jurisdiction over the place where such demolition activities occur. Such enforcement shall be in accordance with the laws governing such municipal or local government unit. In addition, the Department may pursue the remedies provided by Article XXI §2109.02 for any violations of Site Level Condition IV.21.

**22. Fugitive Emissions (§2105.49)**

The person responsible for a source of fugitive emissions, in addition to complying with all other applicable provisions of this permit shall take all reasonable actions to prevent fugitive air contaminants from becoming airborne. Such actions may include, but are not limited to:

- a. The use of asphalt, oil, water, or suitable chemicals for dust control;
- b. The paving and maintenance of roadways, parking lots and the like;

- c. The prompt removal of earth or other material which has been deposited by leaks from transport, erosion or other means;
- d. The adoption of work or other practices to minimize emissions;
- e. Enclosure of the source; and
- f. The proper hooding, venting, and collection of fugitive emissions.

**23. Episode Plans (§2106.02)**

The permittee shall upon written request of the Department, submit a source curtailment plan, consistent with good industrial practice and safe operating procedures, designed to reduce emissions of air contaminants during air pollution episodes. Such plans shall meet the requirements of Article XXI §2106.02.

**24. New Source Performance Standards (§2105.05)**

- a. It shall be a violation of this permit giving rise to the remedies provided by §2109.02 of Article XXI for any person to operate, or allow to be operated, any source in a manner that does not comply with all requirements of any applicable NSPS now or hereafter established by the EPA, except if such person has obtained from EPA a waiver pursuant to Section 111 or Section 129 of the Clean Air Act or is otherwise lawfully temporarily relieved of the duty to comply with such requirements.
- b. Any person who operates, or allows to be operated, any source subject to any NSPS shall conduct, or cause to be conducted, such tests, measurements, monitoring and the like as is required by such standard. All notices, reports, test results and the like as are required by such standard shall be submitted to the Department in the manner and time specified by such standard. All information, data and the like which is required to be maintained by such standard shall be made available to the Department upon request for inspection and copying.

## V. EMISSION UNIT LEVEL TERMS AND CONDITIONS

### A. Process P001: Quench Tower 5A

Process Description:	Water quenching of incandescent coke
Facility ID:	P051
Max. Design Rate/Units:	1,270,200 tons of coke per year
Capacity:	1,270,200 tons of coke per year
Raw Materials:	Incandescent Coke
Control Device(s):	Baffles or their approved equivalents

The permittee is also subject to the following conditions:

#### 1. Restrictions

- a. The permittee shall not quench, or allow the quenching of, coke unless the emissions from such quenching are vented through a baffled quench tower and the water used for such quenching is equivalent to, or better than, the water quality standards established for the nearest stream or river by regulations promulgated by the DEP under the Pennsylvania Clean Streams Law, Act of June 22, 1937, PL. 1987, as amended, 35 P.S. 691.1 et seq., except that water from the nearest stream or river may be used for the quenching of coke. The nearest stream or river to the United States Steel Corporation facility in Clairton, PA, shall be the Monongahela River. [§2102.04.b.6; 2105.21.g]
- b. The permittee shall meet the following requirements for the quench tower and backup quench station: [§2102.04.b.6; 63.7295(a)]
  - 1) For the quenching of hot coke, the permittee shall meet the requirements in Conditions V.A.1.b.1)a) or V.A.1.b.1)b) below
    - a) The concentration of total dissolved solids (TDS) in the water used for quenching must not exceed 1,100 milligrams per liter (mg/L); or
    - b) The sum of the concentrations of benzene, benzo(a)pyrene, and naphthalene in the water used for quenching must not exceed the applicable site-specific limit approved by the Department.
  - 2) The permittee shall use acceptable makeup water, as defined in §63.7352, as makeup water for quenching.
- c. The permittee has demonstrated initial compliance with TDS limit in Condition V.A.1.b.1)a) or {§63.7295(a)(1)(i)} above if the TDS concentration, as measured according to the performance test procedures in Condition V.A.2.b or {§63.7325(a)} below, does not exceed 1,100 mg/l. [§2102.04.b.6; §63.7326(c)(1)]
- d. The permittee has demonstrated initial compliance with the constituent limit in Condition V.A.1.b.1)b) or {§63.7295(a)(1)(ii)} above if [§63.7326(c)(2)]:
  - a) The permittee has established a site-specific constituent limit according to the procedures in Condition V.A.2.c or {§63.7325(b)} below; and

- b) The sum of the constituent concentrations, as measured according to the performance test procedures in Condition V.A.2.d or {§63.7325(c)} below, is less than or equal to the site-specific limit.
- e. The permittee must comply with each emission limitation, work practice standard, and operation and maintenance requirement in 40 CFR Part 63, Subpart CCCCC that applies to you upon initial startup. [§2102.04.b.6; 63.7283(c)]
- f. The permittee shall not quench or allow the quenching of coke through the quench tower unless there is installed and maintained a double set of baffles or equivalent as approved by the Department. [§2102.04.b.6]
- g. The permittee shall not quench or allow the quenching of coke through the quench tower unless there is installed, maintained and operated a system of mist sprays below the baffles to mist the quench plume as it rises in the tower [§2102.04.b.6]
- h. The permittee shall construct the quench tower to be greater than 150 feet in height and to have sufficient cross sectional area to ensure the flow is developed prior to entering the baffles [§2102.04.b.6]
- i. Emissions from Quench Tower 5A shall not exceed the limitations in Table V-A-1: [§2102.04.b.6]

**Table V-A-1 - Quench Tower Emission Limitations**

POLLUTANT	LBS/HR	TPY <sup>1</sup>
PARTICULATE MATTER (total)	29.25	128.11
PM <sub>10</sub> (total)	28.53	124.94
PM <sub>2.5</sub> (total)	27.80	121.76
SULFUR DIOXIDES	7.55	33.07
VOLATILE ORGANIC COMPOUNDS	25.87	113.29

<sup>1</sup> A year is defined as any 12 consecutive months.

## 2. Testing Requirements

- a. The permittee shall conduct performance tests to demonstrate compliance with the TDS limit or constituent limit for quench water in Condition V.A.1.b.1) or {§63.7295(a)(1)} above, as specified in Condition V.A.1.e or {§63.7283(c)} above [§2102.04.b.6; 63.7320(b)]
- b. If the permittee elects the TDS limit for quench water in Condition V.A.1.b.1)a) or {§63.7295(a)(1)(i)} above, the permittee shall conduct each performance test according to the following conditions: [§2102.04.b.6; 63.7325(a)]
  - 1) Take the quench water sample from a location that provides a representative sample of the quench water as applied to the coke (e.g., from the header that feeds water to the quench

- tower reservoirs). Conduct sampling under normal and representative operating conditions. [§2102.04.b.6; 63.7325(a)(1)]
- 2) Determine the TDS concentration of the sample using Method 160.1 in 40 CFR part 136.3 (see “residue—filterable”), except that the permittee shall dry the total filterable residue at 103 to 105 °C (degrees Centigrade) instead of 180 °C. [§2102.04.b.6; 63.7325(a)(2)]
- c. If at any time the permittee elects to meet the alternative requirements for quench water in Condition V.A.1.b.1)b) or {§63.7295(a)(1)(ii)} above the permittee shall establish a site-specific constituent limit according to the following procedures: [§2102.04.b.6; 63.7325(b)]
- 1) Take a minimum of nine quench water samples from a location that provides a representative sample of the quench water as applied to the coke ( *e.g.*, from the header that feeds water to the quench tower reservoirs). Conduct sampling under normal and representative operating conditions.
  - 2) For each sample, determine the TDS concentration according to the requirements in Condition V.A.2.b.2) above and the concentration of benzene, benzo(a)pyrene, and naphthalene using the applicable methods in 40 CFR Part 136 or an approved alternative method
  - 3) Determine and record the highest sum of the concentrations of benzene, benzo(a)pyrene, and naphthalene in any sample that has a TDS concentration less than or equal to the TDS limit of 1,100 mg/L. This concentration is the site-specific constituent limit.
  - 4) Submit the site-specific limit, sampling results, and all supporting data and calculations to the Department for review and approval.
- d. If the permittee elects the constituent limit for quench water in Condition V.A.1.b.1)b) or {§63.7295(a)(1)(ii)} above, the permittee shall conduct each performance test according to the following conditions: [§2102.04.b.6; 63.7325(c)]
- 1) Take a quench water sample from a location that provides a representative sample of the quench water as applied to the coke ( *e.g.*, from the header that feeds water to the quench tower reservoirs). Conduct sampling under normal and representative operating conditions.
  - 2) Determine the sum of the concentration of benzene, benzo(a)pyrene, and naphthalene in the sample using the applicable methods in 40 CFR Part 136 or an approved alternative method.
- e. The permittee shall have particulate (PM<sub>10</sub> and PM<sub>2.5</sub>), sulfur oxides and VOC emissions tests performed on the quench tower outlet according to Site Level Condition IV.13.a above and at least once every two years thereafter to demonstrate compliance with the mass emission standard in Condition V.A.1.i above. Emission tests shall be conducted according to the methodologies specified in 40 CFR 60, Appendix A or methodologies approved by the Department. The permittee shall submit a stack test protocol to the Department for approval at least 45 days prior to the test dates. The permittee shall: [§2108.02.a & .e]
- 1) Sample at an isokinetic rate with an isokinetic variation greater than 90% and less than 110%;
  - 2) Sample for the duration of each quench for a total of 30 quenches per test run;
  - 3) Perform each test run for at least 60 minutes in duration and have a minimum sample volume of 50 dscf;
  - 4) Include sample example calculations;
  - 5) The test report shall include the test results in terms of lbs/hr and lbs/ton coke quenched.

- f. The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. (§2103.12.h.1)

### 3. Monitoring Requirements

- a. Beginning on the first day compliance is required under Conditions V.A.1.e or {§63.7283} above, the permittee shall demonstrate continuous compliance with the TDS limit for quenching in Condition V.A.1.b.1)a) or {§63.7295(a)(1)(i)} above by meeting the following requirements: [63.7333(f)]
  - 1) Maintaining the TDS content of the water used to quench hot coke at 1,100 mg/L or less; and
  - 2) Determining the TDS content of the quench water at least weekly according to the requirements in Condition V.A.2.b or {§63.7325(a)} above and recording the sample results.
- b. Beginning on the first day compliance is required under Conditions V.A.1.e or {§63.7283} above, the permittee shall demonstrate continuous compliance with the constituent limit for quenching in Condition V.A.2.b.2) or §63.7295(a)(1)(ii) above by meeting the following requirements: [63.7333(g)]
  - 1) Maintaining the sum of the concentrations of benzene, benzo(a)pyrene, and naphthalene in the water used to quench hot coke at levels less than or equal to the site-specific limit approved by the Department; and
  - 2) Determining the sum of the constituent concentrations at least monthly according to the requirements in Condition V.A.2.d or {§63.7325(c)} above and recording the sample results.

### 4. Record Keeping Requirements:

- a. For each work practice standard for quenching in Condition V.A.6.a or {§63.7295(b)} below, the permittee shall demonstrate continuous compliance according to the following requirements: [§2102.04.b.6; 63.7334(e) & §2103.12.j]
  - 1) Maintaining records that document that the quench tower is equipped with baffles such that no more than 5 percent of the cross-sectional area of the tower is uncovered or open to the sky as required in condition V.A.6.a.1) or {§63.7295(b)(1)} below;
  - 2) Maintaining records that document conformance with the washing, inspection, and repair requirements in Conditions V.A.6.a.2) or {§63.7295(b)(2)} and V.A.6.c below, including records of the ambient temperature on any day that the baffles were not washed; and
  - 3) Maintaining records of the source of makeup water to document conformance with the requirements for acceptable make-up water in Condition V.A.1.b.2) above.

### 5. Reporting Requirements:

- a. The permittee has demonstrated initial compliance with the work practice standards for quenching in Condition V.A.6.a or {§63.7295(b)} below if the permittee certifies in the notification of compliance status that the following requirements have been met: [§2102.04.b.6; 63.7327(e)]
  - 1) The permittee has installed the required equipment in the quench tower; and

- 2) The permittee will meet each of the work practice requirements beginning no later than the compliance date that is specified in Conditions V.A.1.e or {§63.7283} above.
- b. The permittee shall submit a notification of compliance status containing the results of the quench water performance test (TDS or constituent limit) according to Condition V.A.5.c below or {§63.7340(e)(1)}. [§2102.04.b.6; 63.7326(d)].
- c. The permittee shall submit a notification of compliance status according to §63.9(h)(2)(ii) if a performance test, opacity observation, or other initial compliance demonstration is required to be conducted,. [§2102.04.b.6; 63.7340(e)]
  - 1) For each initial compliance demonstration that does not include a performance test, the permittee shall submit the notification of compliance status before the close of business on the 30th calendar day following the completion of the initial compliance demonstration.
  - 2) For each initial compliance demonstration that does include a performance test, the permittee shall submit the notification of compliance status, including the performance test results, before the close of business on the 60th calendar day following completion of the performance test according to §63.10(d)(2).
- d. *Semiannual compliance report contents.* Each compliance report must provide information on compliance with the emission limitations, work practice standards, and operation and maintenance requirements for the quench tower. The reports must include the information in Conditions V.A.5.d.1) through V.A.5.d.3) below, and as applicable, Conditions V.A.5.d.4) through V.A.5.d.6) below. §[63.7341(c)]
  - 1) Company name and address.
  - 2) Statement by a responsible official, with the official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
  - 3) Date of report and beginning and ending dates of the reporting period.
  - 4) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your startup, shutdown, and malfunction plan, the compliance report must include the information in §63.10(d)(5)(i).
  - 5) If there were no deviations from the continuous compliance requirements in Conditions V.A.3.a, V.A.3.b and V.A.4.a or {§§63.7333(f&g) and 63.7334(e)} above (for the quench tower), a statement that there were no deviations from the emission limitations, work practice standards, or operation and maintenance requirements during the reporting period.
  - 6) For each deviation from an emission limitation in 40 CFR 63, Subpart CCCCC (including quench water limits) and for each deviation from the requirements for work practice standards in 40 CFR 63, Subpart CCCCC that occurs at the quench tower, the compliance report must contain the information in Conditions V.A.5.d.4) and V.A.5.d.6). This includes periods of startup, shutdown, and malfunction.
    - a) The total operating time of the quench tower during the reporting period.
    - b) Information on the number, duration, and cause of deviations (including unknown cause, if applicable) as applicable and the corrective action taken.
- e. The permittee shall report 12-month rolling total emissions using the results of the most recent emissions test in accordance with General Condition III.15.d above. (§2102.04.b.4)

- f. Reporting instances of non-compliance in accordance with the Startup Shutdown Malfunction Plan, does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. (§2102.04.b.4)

**6. Work Practice Standard:**

- a. The permittee shall meet each of the following requirements for Quench Tower 5A: [§2102.04.b.6; 63.7295(b)]
  - 1) The permittee shall equip the quench tower with baffles such that no more than 5 percent of the cross sectional area of the tower may be uncovered or open to the sky.
  - 2) The permittee shall wash the baffles in the quench tower once each day that the tower is used to quench coke, except as specified in Conditions I.A.1.a.1)i) and I.A.1.a.1)ii) below:
    - i). You are not required to wash the baffles in a quench tower if the highest measured ambient temperature remains less than 30 degrees Fahrenheit throughout that day (24-hour period). If the measured ambient temperature rises to 30 degrees Fahrenheit or more during the day, the permittee shall resume daily washing according to the schedule in the operation and maintenance plan.
    - ii). The permittee shall continuously record the ambient temperature on days that the baffles were not washed.
  - 3) The permittee shall inspect the quench tower monthly for damaged or missing baffles and blockage.
  - 4) The permittee shall initiate repair or replacement of damaged or missing baffles within 30 days and complete as soon as practicable.
- b. As provided in §63.6(g), you may request to use an alternative to the work practice standards in Condition V.A.6.a or {§63.7295(b)} above. [§2102.04.b.6; 63.7295(c)]
- c. The permittee shall wash the back-up quench tower baffles once each day that the quench tower is used, provided the ambient temperature is above 30°F. [§2103.12.h.6].

**7. Additional Requirements**

- a. The permittee shall notify the Department in writing ten (10) days prior to start-up of the Quench Tower. The installation of the equipment included in this permit shall be inspected and approved by the Department prior to the incandescent coke produced by batteries 13-15 is quenched. (§2102.04.b.6)

**B. Process P002: Quench Tower 7A**

Process Description:	Water quenching of incandescent coke
Facility ID:	P052
Max. Design Rate/Units:	1,555,630 tons of coke per year
Capacity:	1,555,630 tons of coke per year
Raw Materials:	Incandescent Coke
Control Device(s):	Baffles or their approved equivalents

The permittee is also subject to the following conditions:

**1. Restrictions**

- a. The permittee shall not quench, or allow the quenching of, coke unless the emissions from such quenching are vented through a baffled quench tower and the water used for such quenching is equivalent to, or better than, the water quality standards established for the nearest stream or river by regulations promulgated by the DEP under the Pennsylvania Clean Streams Law, Act of June 22, 1937, PL. 1987, as amended, 35 P.S. 691.1 et seq., except that water from the nearest stream or river may be used for the quenching of coke. The nearest stream or river to the United States Steel Corporation facility in Clairton, PA, shall be the Monongahela River. [§2102.04.b.6; 2105.21.g]
- b. The permittee shall meet the following requirements for the quench tower and backup quench station: [§2102.04.b.6; 63.7295(a)]
  - 1) For the quenching of hot coke, the permittee shall meet the requirements in Conditions V.B.1.b.1)a) or V.B.1.b.1)b) below:
    - a) The concentration of total dissolved solids (TDS) in the water used for quenching must not exceed 1,100 milligrams per liter (mg/L); or
    - b) The sum of the concentrations of benzene, benzo(a)pyrene, and naphthalene in the water used for quenching must not exceed the applicable site-specific limit approved by the Department.
  - 2) The permittee shall use acceptable makeup water, as defined in §63.7352, as makeup water for quenching.
- c. The permittee has demonstrated initial compliance with the TDS limit in Condition V.B.1.b.1)a) or {§63.7295(a)(1)(i) above if the TDS concentration, as measured according to the performance test procedures in Condition V.B.2.b or {§63.7325(a)} below, does not exceed 1,100 mg/L. [§2102.04.b.6; 63.7326(c)(1)]
- d. The permittee has demonstrated initial compliance with the constituent limit in Condition V.B.1.b.1)b) above or {§63.7295(a)(1)(ii)} if [§63.7326(c)(2)]:
  - a) The permittee has established a site-specific constituent limit according to the procedures in Condition V.B.2.c or {§63.7325(b)} below; and
  - b) The sum of the constituent concentrations, as measured according to the performance test procedures in Condition V.B.2.d below or {§63.7325(c)}, is less than or equal to the site-specific limit.

- e. The permittee must comply with each emission limitation, work practice standard, and operation and maintenance requirement in 40 CFR Part 63, Subpart CCCCC that applies to you upon initial startup. [§2102.04.b.6; 63.7283(c)]
- f. The permittee shall not quench or allow the quenching of coke through the quench tower unless there is installed and maintained a double set of baffles or equivalent as approved by the Department. [§2102.04.b.6]
- g. The permittee shall not quench or allow the quenching of coke through the quench tower unless there is installed, maintained and operated a system of mist sprays below the baffles to mist the quench plume as it rises to the tower [§2102.04.b.6]
- h. The permittee shall construct the quench tower to be greater than 150 feet in height and to have sufficient cross sectional area to ensure the flow is developed prior to entering the baffles [§2102.04.b.6]
- i. Emissions from Quench Tower 7A shall not exceed the limitations in Table V-B-1: [§2102.04.b.6]

**Table V-B-1 - Quench Tower Emission Limitations**

POLLUTANT	LBS/HR	TPY <sup>1</sup>
PARTICULATE MATTER (total)	35.82	156.88
PM <sub>10</sub> (total)	34.93	152.99
PM <sub>2.5</sub> (total)	34.04	149.10
SULFUR DIOXIDES	7.44	32.58
VOLATILE ORGANIC COMPOUNDS	25.48	111.60

<sup>1</sup> A year is defined as any 12 consecutive months.

## 2. Testing Requirements

- a. The permittee shall conduct performance tests to demonstrate compliance with the TDS limit or constituent limit for quench water in Condition V.B.1.b.1) or {§63.7295(a)(1)} above as specified in Condition V.B.1.e or {§63.7283(c)} above. [§2102.04.b.6; 63.7320(b)]
- b. If the permittee elects the TDS limit for quench water in Condition V.B.1.b.1)a) or {§63.7295(a)(1)(i)} above, the permittee shall conduct each performance test according to the following conditions: [§2102.04.b.6; 63.7325(a)]
  - 1) Take the quench water sample from a location that provides a representative sample of the quench water as applied to the coke (e.g., from the header that feeds water to the quench tower reservoirs). Conduct sampling under normal and representative operating conditions. [§2102.04.b.6; 63.7325(a)(1)]
  - 2) Determine the TDS concentration of the sample using Method 160.1 in 40 CFR part 136.3 (see “residue—filterable”), except that the permittee shall dry the total filterable residue at 103 to 105°C (degrees Centigrade) instead of 180°C. [§2102.04.b.6; 63.7325(a)(2)]

- c. If at any time the permittee elects to meet the alternative requirements for quench water in Condition V.B.1.b.1)b) or {§63.7295(a)(1)(ii)} above, the permittee shall establish a site-specific constituent limit according to the following procedures: [§2102.04.b.6; 63.7325(b)]
  - 1) Take a minimum of nine quench water samples from a location that provides a representative sample of the quench water as applied to the coke ( e.g., from the header that feeds water to the quench tower reservoirs). Conduct sampling under normal and representative operating conditions.
  - 2) For each sample, determine the TDS concentration according to the requirements in Condition V.B.2.b.2) above and the concentration of benzene, benzo(a)pyrene, and naphthalene using the applicable methods in 40 CFR Part 136 or an approved alternative method.
  - 3) Determine and record the highest sum of the concentrations of benzene, benzo(a)pyrene, and naphthalene in any sample that has a TDS concentration less than or equal to the TDS limit of 1,100 mg/L. This concentration is the site-specific constituent limit.
  - 4) Submit the site-specific limit, sampling results, and all supporting data and calculations to the Department for review and approval.
- d. If the permittee elects the constituent limit for quench water in Condition V.B.1.b.1)b) or {§63.7295(a)(1)(ii)} above, the permittee shall conduct each performance test according to the following conditions: [§2102.04.b.6; 63.7325(c)]
  - 1) Take a quench water sample from a location that provides a representative sample of the quench water as applied to the coke (e.g., from the header that feeds water to the quench tower reservoirs). Conduct sampling under normal and representative operating conditions.
  - 2) Determine the sum of the concentration of benzene, benzo(a)pyrene, and naphthalene in the sample using the applicable methods in 40 CFR Part 136 or an approved alternative method.
- e. The permittee shall have particulate (PM<sub>10</sub> and PM<sub>2.5</sub>), sulfur oxides and VOC emissions tests performed on the quench tower outlet according to Site Level Condition IV.13.a above and at least once every two years thereafter to demonstrate compliance with the mass emission standard in Condition V.B.1.i above. Emission tests shall be conducted according to the methodologies specified in 40 CFR 60, Appendix A or methodologies approved by the Department. The permittee shall submit a stack test protocol to the Department for approval at least 45 days prior to the test dates The permittee shall: [§2108.02.a & .e]
  - 1) Sample at an isokinetic rate with an isokinetic variation greater than 90% and less than 110%;
  - 2) Sample during each quench (for short batteries, less than 6m) for a total of 30 quenches
  - 3) Perform each test run for at least 60 minutes in duration and have a minimum sample volume of 50 dscf;
  - 4) Include sample example calculations.
  - 5) The test report shall include the test results in terms of lbs/hr and lbs/ton coke quenched.
- f. The Department reserves the right to require additional emissions testing sufficient to assure compliance with the terms and conditions of this permit. Such testing shall be performed in accordance with Article XXI §2108.02. (§2103.12.h.1)

### **3. Monitoring Requirements**

- a. Beginning on the first day compliance is required under Conditions V.B.1.e or {§63.7283} above, the permittee shall demonstrate continuous compliance with the TDS limit for quenching in Condition V.B.1.b.1)a) or {§63.7295(a)(1)(i)} above by meeting the following requirements: [63.7333(f)]
  - 1) Maintaining the TDS content of the water used to quench hot coke at 1,100 mg/L or less; and
  - 2) Determining the TDS content of the quench water at least weekly according to the requirements in Condition V.B.2.b or {§63.7325(a)} above and recording the sample results.
- b. Beginning on the first day compliance is required under Conditions V.B.1.e or {§63.7283} above, the permittee shall demonstrate continuous compliance with the constituent limit for quenching in Condition V.B.1.b.1)b) or {§63.7295(a)(1)(ii)} above by meeting the following requirements: [63.7333(g)]
  - 1) Maintaining the sum of the concentrations of benzene, benzo(a)pyrene, and naphthalene in the water used to quench hot coke at levels less than or equal to the site-specific limit approved by the Department; and
  - 2) Determining the sum of the constituent concentrations at least monthly according to the requirements in Condition V.B.2.d or {§63.7325(c)} above and recording the sample results.

### **4. Record Keeping Requirements**

- a. For each work practice standard for quenching in Condition V.B.6.a or {§63.7295(b)} below, the permittee shall demonstrate continuous compliance according to the following requirements: [§2102.04.b.6; 63.7334(e) & §2103.12.j]
  - 1) Maintaining records that document that the quench tower is equipped with baffles such that no more than 5 percent of the cross-sectional area of the tower is uncovered or open to the sky as required in Condition V.B.6.a.1) or {§63.7295(b)(1)} below;
  - 2) Maintaining records that document conformance with the washing, inspection, and repair requirements in Condition V.B.6.a.2) or {§63.7295(b)(2)} and V.B.6.c below, including records of the ambient temperature on any day that the baffles were not washed; and
  - 3) Maintaining records of the source of makeup water to document conformance with the requirement for acceptable makeup water in Condition V.B.1.b.2) or {§63.7295(a)(2)} above.

### **5. Reporting Requirements:**

- a. The permittee has demonstrated initial compliance with the work practice standards for quenching in Condition V.B.6.a below or {§63.7295(b)} if the permittee certifies in the notification of compliance status that the following requirements have been met: [§2102.04.b.6; 63.7327(e)]
  - 1) The permittee has installed the required equipment in the quench tower; and
  - 2) The permittee will meet each of the work practice requirements beginning no later than the compliance date that is specified in Conditions V.B.1.e or {§63.7283} above.
- b. The permittee shall submit a notification of compliance status containing the results of the quench water performance test (TDS or constituent limit) according to Condition V.B.5.c below or {63.7340(e)(1)}. [§2102.04.b.6; 63.7326(d)]

- c. The permittee shall submit a notification of compliance status according to §63.9(h)(2)(ii) if a performance test, opacity observation, or other initial compliance demonstration is required to be conducted. [§2102.04.b.6; 63.7340(e)]
  - 1) For each initial compliance demonstration that does not include a performance test, the permittee shall submit the notification of compliance status before the close of business on the 30th calendar day following the completion of the initial compliance demonstration.
  - 2) For each initial compliance demonstration that does include a performance test, the permittee shall submit the notification of compliance status, including the performance test results, before the close of business on the 60th calendar day following completion of the performance test according to §63.10(d)(2).
- d. *Semiannual compliance report contents.* Each compliance report must provide information on compliance with the emission limitations, work practice standards, and operation and maintenance requirements for the quench tower. The reports must include the information in Conditions V.B.5.d.1) through V.B.5.d.3) below, and as applicable, Conditions V.B.5.d.4) through V.B.5.d.6) below. §[63.7341(c)]
  - 1) Company name and address.
  - 2) Statement by a responsible official, with the official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
  - 3) Date of report and beginning and ending dates of the reporting period.
  - 4) If you had a startup, shutdown, or malfunction during the reporting period and you took actions consistent with your startup, shutdown, and malfunction plan, the compliance report must include the information in §63.10(d)(5)(i).
  - 5) If there were no deviations from the continuous compliance requirements in Conditions V.B.3.a, V.B.3.b and V.B.4.a or {§63.7333(f&g) and 63.7334(e)} above (for the quench tower), a statement that there were no deviations from the emission limitations, work practice standards, or operation and maintenance requirements during the reporting period.
  - 6) For each deviation from an emission limitation in 40 CFR 63, Subpart CCCCC (including quench water limits) and for each deviation from the requirements for work practice standards in 40 CFR 63, Subpart CCCCC that occurs at the quench tower, the compliance report must contain the information in Conditions V.B.5.d.4) and V.B.5.d.6). This includes periods of startup, shutdown, and malfunction.
    - a) The total operating time of the quench tower during the reporting period.
    - b) Information on the number, duration, and cause of deviations (including unknown cause, if applicable) as applicable and the corrective action taken.
- e. The permittee shall report 12-month rolling total emissions using the results of the most recent emissions test in accordance with General Condition III.15.d above. (§2102.04.b.4)
- f. Reporting instances of non-compliance in accordance with the Startup Shutdown Malfunction Plan, does not relieve the permittee of the requirement to report breakdowns in accordance with Site Level Condition IV.8 above, if appropriate. (§2102.04.b.4)

**6. Work Practice Standard:**

- a. The permittee shall meet each of the following requirements for Quench Tower 7A: [§2102.04.b.6; 63.7295(b)]

- 1) The permittee shall equip the quench tower with baffles such that no more than 5 percent of the cross sectional area of the tower may be uncovered or open to the sky.
  - 2) The permittee shall wash the baffles in the quench tower once each day that the tower is used to quench coke, except as specified in Conditions V.B.6.a.2)i) and V.B.6.a.2)ii) below:
    - i) You are not required to wash the baffles in a quench tower if the highest measured ambient temperature remains less than 30 degrees Fahrenheit throughout that day (24-hour period). If the measured ambient temperature rises to 30 degrees Fahrenheit or more during the day, the permittee shall resume daily washing according to the schedule in the operation and maintenance plan.
    - ii) The permittee shall continuously record the ambient temperature on days that the baffles were not washed.
  - 3) The permittee shall inspect the quench tower monthly for damaged or missing baffles and blockage.
  - 4) The permittee shall initiate repair or replacement of damaged or missing baffles within 30 days and complete as soon as practicable.
- b. As provided in §63.6(g), you may request to use an alternative to the work practice standards in Condition V.B.6.a above or {§63.7295(b)}. [§2102.04.b.6; 63.7295(c)]
- c. The permittee shall wash the back-up quench tower baffles once each day that the quench tower is used, provided the ambient temperature is above 30°F. [§2103.12.h.6].

## 7. Additional Requirements

- a. The permittee shall notify the Department in writing ten (10) days prior to start-up of the Quench Tower. The installation of the equipment included in this permit shall be inspected and approved by the Department prior to the incandescent coke produced by batteries 19-20 is quenched. (§2102.04.b.6)

## VI. ALTERNATIVE OPERATING SCENARIOS

*No alternative operating scenarios exist for this Installation.*

## VII. EMISSION LIMITATIONS SUMMARY

*[This section is provided for informational purposes only and is not intended to be an applicable requirement.]*

Annual emissions from quench towers equipment authorized by this permit are:

POLLUTANT	Tons/year
Particulate Matter (total)	284.99
PM-10 (total)	277.93
PM-2.5 (total)	270.86
Sulfur Oxides	65.65
Volatile Organic Compounds	224.90